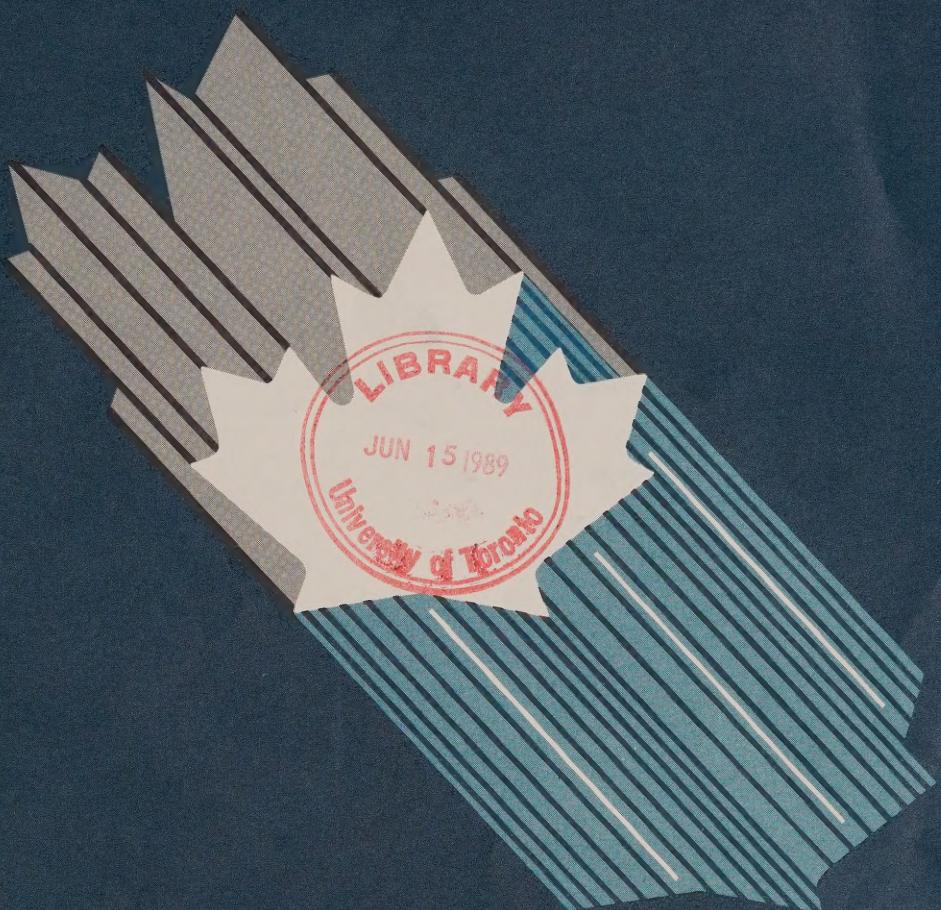


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I N D U S T R Y
P R O F I L E



Industry, Science and
Technology Canada

Industrie, Sciences et
Technologie Canada

Boxboard

Canada

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INDUSTRY PROFILE

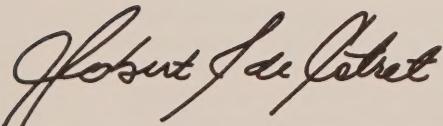
BOXBOARD

1988

FOREWORD

In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to survival and growth. This Industry Profile is one of a series of papers which assess, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological and other key factors, and changes anticipated under the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the papers.

The series is being published as steps are being taken to create the new Department of Industry, Science and Technology from the consolidation of the Department of Regional Industrial Expansion and the Ministry of State for Science and Technology. It is my intention that the series will be updated on a regular basis and continue to be a product of the new department. I sincerely hope that these profiles will be informative to those interested in Canadian industrial development and serve as a basis for discussion of industrial trends, prospects and strategic directions.



Minister

Canada

1. Structure and Performance

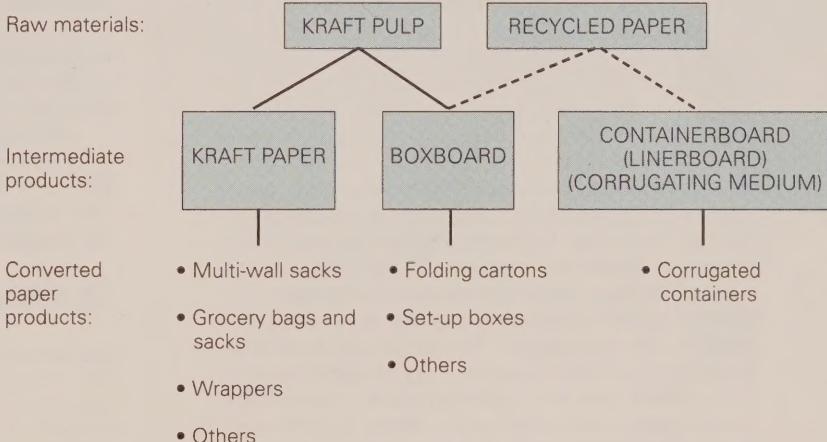
Structure

Boxboard is a general term designating the paperboard intermediate product used to fabricate folding cartons and set-up boxes. A folding carton (e.g., a cereal box) is folded flat for shipment to the user, while the set-up box (e.g., the old-style shoebox) is shipped in the form and shape of the end use.

Boxboard may be plain, lined or coated, and is made from virgin fibre, secondary fibre or a combination of the two. Secondary fibre is any fibrous material that has undergone a manufacturing process and is recycled as the raw material for another manufactured product. Boxboard produced from secondary fibre is the principal grade and accounts for just more than 90 percent of total boxboard production in Canada. Boxboard produced from virgin fibre, usually by the kraft process, accounts for the balance. Its main product is the solid bleached board used to package beverages and food.

The relationship of boxboard to other materials and products in the packaging industry is outlined in the following diagram.

PAPER-BASED PACKAGING



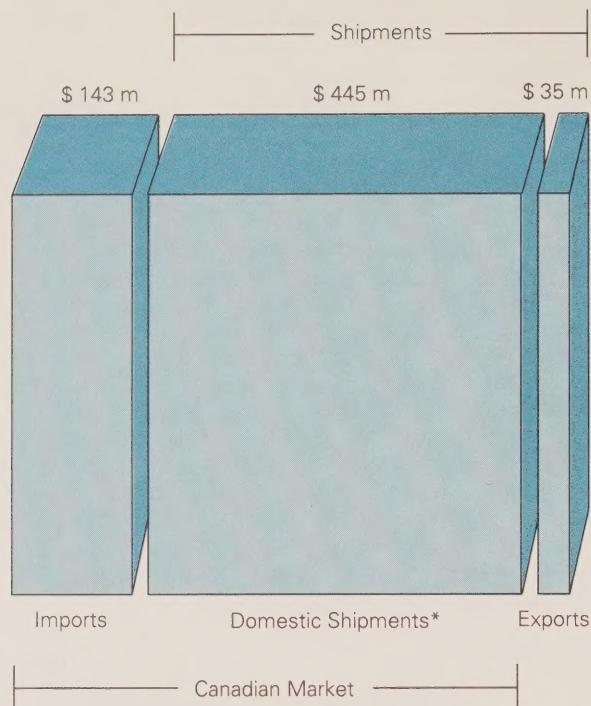
In 1986, Canadian shipments of boxboard were estimated at 778 000 tonnes. Of this, only eight percent, or 64 000 tonnes, were exported, almost exclusively to the United States. In that year, Canada imported 214 000 tonnes, which represented 23 percent of the domestic market.

Bulky and with a relatively low value, boxboard is normally not sold offshore by Canadian or other producers. For the most part, it is marketed to domestic carton and box manufacturers generally located in urban centres. Canadian production of boxboard represents an estimated five percent of world production and about 10 percent of the North American total.



Industry, Science and
Technology Canada

Industrie, Sciences et
Technologie Canada



*Imports, Exports and Domestic Shipments
1986*

* ISTC estimate

The industry consists of 16 mills wholly or partially engaged in the production of boxboard grades. There are five large plants, each with an annual production between 70 000 and 125 000 tonnes; nine intermediate companies (25 000 to 50 000 tonnes); and two small firms (5000 to 15 000 tonnes). Production capacity is — Ontario, 51 percent; Quebec, 33 percent; British Columbia, 11 percent; and the Atlantic provinces, five percent. Direct mill employment in 1986 was estimated at 2600 persons, and was distributed in approximately the same ratio as capacity.

About 80 percent of the boxboard production capacity is Canadian-owned, with approximately 60 percent of total capacity integrated forward to boxmaking operations. One corporate group accounts for almost 65 percent of the industry's integration.

Performance

Growth in demand for boxboard has been negligible in recent years. The major market is the folding carton industry, which is mature and losing a share of its market to other materials, mostly plastics.

Since 1975, there has been almost no overall change in Canadian boxboard capacity, although there has been an observable shift in the production of the principal grades of solid bleached board and recycled board. The solid bleached board capacity has fallen by approximately 26 percent from the 1975 level, while recycled board production has risen by some 24 percent. No greenfield project was involved in the increase. Rather, it was the result of modest but steady improvements in mill efficiencies over the period.

Historically, boxboard mills have operated at less than 90 percent of capacity, a level which represents moderate but chronic overcapacity compared to other paper and paperboard products. Despite this low use of rated capacity, Canada has become a net importer of boxboard because of price, quality or a combination of both. The principal supplier has been the United States.

Imports of boxboard on a tonnage basis have been increasing since 1975 and between 1982 and 1986 the rate of growth accelerated. In 1982, approximately 95 000 tonnes of U.S. boxboard were imported to Canada. By 1986, imports had risen to some 214 000 tonnes. Export figures, by contrast, have varied and show no evidence that Canadian mills have attained an established position in any market, including the United States. This is in spite of their duty-free access to the American market for a number of years and a favourable exchange rate.

Excess capacity and the competitive threat of lower-cost, American-based producers have partly constrained domestic prices for boxboard. The result has been relatively poor profit margins for Canadian producers.

2. Strengths and Weaknesses

Structural Factors

The industry is unable to achieve economies of scale because of the need to produce several grades in short production runs. This inability, raw material costs and labour productivity are the main factors affecting the competitive cost of producing boxboard in Canada. This country has no world-scale boxboard mill. The relatively small size of the domestic boxboard market, together with its requirement for a wide range of products, has prevented this industry from developing world-scale production units.

By contrast, the U.S. market is large. Many American producers take advantage of economies of scale by specializing in a few grades of boxboard. In addition, American wage rates are lower than those in Canada. Supported by higher labour productivity due to long production runs and minimal machine changeovers, U.S. labour unit costs are substantially lower than Canada's. Canadian boxboard plants are also generally older and less efficient than those of their U.S. competitors.



Both Canadian and American mills compete for U.S. secondary fibre. The cost of this raw material accounts for between 35 and 40 percent of the variable production cost. Canadian mills import approximately 45 to 55 percent of their secondary fibre from the United States. This is because Canada's low population density has prevented the establishment of economically viable wastepaper collection systems. Canadian boxboard producers buy American secondary fibre through U.S. "exporters" who charge their Canadian customers up to 30 percent more than the U.S. domestic price. This percentage includes transportation costs and the general pricing policy of American suppliers toward the Canadian market.

In summary, Canadian boxboard is not competitive with the U.S. product because of lower American fibre and labour costs and the economy-of-scale advantages enjoyed by American mills.

Trade-related Factors

Since January 1, 1987, the duty on solid bleached boxboard entering Canada has been 6.5 percent, and the tariff on all other boxboard is 9.2 percent. Solid bleached boxboard is a virgin fibre product used in milk cartons. Boxboard entering the United States has enjoyed duty-free access to that market for some years. The European Community (E.C.) tariff on boxboard is eight or nine percent, depending on the grade. Boxboard enjoys duty-free access into Japan, but because of transportation costs, the Canadian product is not competitive in that market.

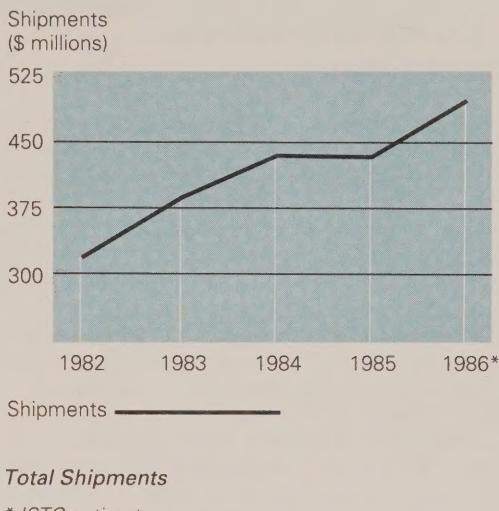
The Canadian tariff on folding cartons is 10.2 percent, while the U.S. tariff is 2.8 percent. There are no non-tariff barriers (NTBs) to trade in boxboard between Canada and the United States.

Technological Factors

Boxboard manufacturing technology is available throughout the world. It is continuously evolving, resulting in higher productivity in new or modernized plants. The Canadian industry has access to new technology but so far the industry has made no substantial investment in this area. Canadian equipment is older, with lower operating speeds. Modernization of the Canadian industry is not proceeding at a rate comparable to that of international competitors.

Other Factors

The exchange rate has been an important factor in maintaining the competitiveness of Canadian mills domestically against U.S. imports. However, the exchange rate in the last decade has not been effective in making the Canadian product competitive in the U.S. market, despite duty-free access.



3. Evolving Environment

Over the long term, real growth in demand for boxboard in Canada and the United States is expected to be marginal (averaging about one percent per year). It should be noted that Canadian boxboard demand depends heavily on the domestic folding carton industry, which is mature and in the process of losing a share of its traditional markets to other packaging materials.

In Canada, the small but steady development of excess capacity will likely keep a downward pressure on boxboard prices, to the detriment of mill margins, cash flow and capital formation.

American producers are expected to add almost 1.3 million tonnes of capacity between 1987 and 1993 due to machine improvements and additions. It seems unlikely that this capacity growth will be fully absorbed by the U.S. market for some time. This situation could put additional downward pressures on prices in the Canadian market.

Under the Canada-U.S. Free Trade Agreement (FTA), Canadian boxboard producers will have to offer competitive boxboard prices to Canadian boxmakers if those firms are to remain competitive in the Canadian market with U.S. boxmakers. Mill competitiveness will be essential whether or not the mill is integrated forward to folding carton production. About 35 percent of domestic demand comes from "open-market" purchases of independent, non-integrated boxmakers. This segment of the market would be particularly vulnerable to low-cost, duty-free boxboard imports from the United States.



4. Competitiveness Assessment

At best, Canadian mills are marginally competitive in the domestic market. With their higher fibre and labour-cost inputs, they operate with low profit margins. This situation leaves them little room for price reduction to retain market share and tonnage throughput. Nor can mills afford to subsidize their major downstream users, the converters, on a continuing basis. Boxmakers face the same competitive problem. A major increase in the value of the Canadian dollar against its American counterpart would, therefore, have a substantial adverse impact on the industry's competitiveness.

Under the FTA, existing tariffs for boxboard and folding cartons will be eliminated in five equal annual stages beginning on January 1, 1989. The Canadian industry will become increasingly vulnerable to a major loss of market share when tariffs are eliminated. Its lack of financial resources to modernize will aggravate this situation. Canadian mills, therefore, are expected to lose tonnage. With no alternative market available, their reduced operating rates may lead producers to leave this market, either by shutting down or converting to a more profitable product.

For further information concerning the subject matter contained in this profile, contact:

Resource Processing Industries Branch
Industry, Science and Technology Canada
Attention: Boxboard
235 Queen Street
Ottawa, Ontario
K1A 0H5

(613) 954-3043



PRINCIPAL STATISTICS

SIC(s) COVERED: 2713 (1980)

	1973	1982	1983	1984	1985	1986
Establishments	16	16	16	16	16	16
Employment ^e	2 800	2 300	2 600	2 600	2 600	2 600
Shipments (\$ millions) (volume '000 tonnes)	137 612	333 626	380 704	440 757	439 751	480 ^e 778 ^e

TRADE STATISTICS

	1973	1982	1983	1984	1985	1986
Exports (\$ millions) (volume, '000 tonnes)	4 21	14 28	24 57	40 86	33 64	35 64
Domestic shipments (\$ millions) (volume, '000 tonnes)	133 591	319 598	356 647	400 671	406 687	445 ^e 714 ^e
Imports (\$ millions) (volume, '000 tonnes)	N/A N/A	65 95	78 121	106 161	119 171	143 214
Canadian market (\$ millions) (volume '000 tonnes)	N/A N/A	384 693	434 768	506 832	525 858	588 ^e 928 ^e
Exports as % of shipments (tonnes)	3	4	8	11	9	8
Imports as % of domestic market (tonnes)	N/A	14	16	19	20	23
Source of imports (% of total value)			U.S.	E.C.	Asia	Others
	1982	99	—	—	—	1
	1983	99	—	—	—	1
	1984	100	—	—	—	—
	1985	98	—	—	—	2
	1986	99	—	—	—	1
Destination of exports (% of total value)		U.S.	E.C.	Asia	Others	
	1982	99	—	—	—	1
	1983	99	—	—	—	1
	1984	93	—	—	—	7
	1985	93	—	—	—	7
	1986	95	—	—	—	5

(continued)

**REGIONAL DISTRIBUTION — Average over the last 3 years**

	Atlantic	Quebec	Ontario	Prairies	B.C.
Capacity – % of total	5	33	51	—	11
Establishments – % of total	12	44	38	—	6
Employment – % of total	6	35	49	—	10

MAJOR FIRMS

Name	Ownership	Location of Major Plants
Paperboard Industries Corporation	Canadian	Burnaby, British Columbia Toronto, Ontario Trenton, Ontario Montréal, Quebec
The Beaver Wood Fibre Company Limited	American	Thorold, Ontario
Canadian Pacific Forest Products Limited	Canadian	La Tuque, Quebec
Cascades Inc.	Canadian	Jonquière, Quebec East-Angus, Quebec

e ISTC estimate
N/A Not available

Note: Statistics Canada data have been used in this profile.

RÉPARTITION RÉGIONALE — Moyenne des 3 dernières années

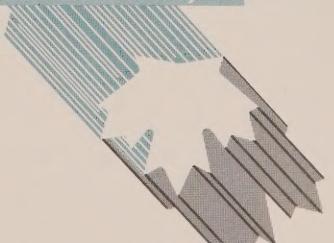
Capacité (en %)	Atlantique	Québec	Ontario	Prairies	C.-B.	Emplois (en %)
Etablissements (en %)	12	44	38	—	6	
Nombre d'entreprises	5	33	51	—	11	
Emplacement	Propriété	canadienne	Burnaby (C.-B.)	Toronto et Trenton (Ontario)	Montréal (Québec)	Corporate
Nom	The Beaver Wood Fibre Company Limited	américaine	Thorold (Ontario)	Produits Forestiers Canadiens	Pacifique Limitee	Cascades Inc.
				canadienne	La Tuque (Québec)	Jonquière et East Angus (Québec)

Les données utilisées dans ce profil proviennent de Statistique Canada.

* Les montants indiqués sont exprimés en millions de dollars.

é Estimations d'ISTC.

PRINCIPALES SOCIÉTÉS



STATISTIQUES COMMERCIABLES						
	1973	1982	1983	1984	1985	1986
Etablissements	16	16	16	16	16	16
Emplois	2 800	2 300	2 600	2 600	2 600	2 600
Expéditions*	137	333	380	440	439	480e
(volume, en milliers de tonnes)	612	626	704	757	751	778e
Expéditions interentreurs*	133	319	356	400	406	445e
(volume, en milliers de tonnes)	65	78	106	119	119	143
Importations*	n.d.	n.d.	95	121	161	171
(volume, en milliers de tonnes)	n.d.	n.d.	65	78	106	1214
Marché intérieur*	n.d.	384	434	506	525	588e
(volume, en milliers de tonnes)	n.d.	693	768	832	858	928e
Exportations (en % des expéditions — en tonnes)	3	4	8	11	9	8
Marché intérieur — en % du marché intérieur	n.d.	14	16	19	20	23
Source des importations	E.-U.	CEE	Asie	Autres		
Destination des exportations (en %)	E.-U.	CEE	Asie	Autres		
1982	99	—	—	—	1	1
1983	99	—	—	—	1	1
1984	99	—	—	—	1	1
1985	93	—	—	—	7	7
1986	95	—	—	—	5	5

PRINCIPALES STATISTIQUES CTI 2713 (1980)						
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Importations (en % du marché intérieur — en tonnes)	n.d.	14	16	19	20	23
Source des importations	E.-U.	CEE	Asie	Autres		
Destination des exportations (en %)	E.-U.	CEE	Asie	Autres		
1982	99	—	—	—	1	1
1983	99	—	—	—	1	1
1984	99	—	—	—	1	1
1985	93	—	—	—	7	7
1986	95	—	—	—	5	5



4. Evaluation de la compétitivité

Les usines canadiennes sont à peine compétitives sur le marché intérieur. Leurs marges bénéficiaires sont faibles en raison des coûts élevés de la matière première et de la main-d'œuvre. Cette situation laisse une marge de manœuvre très faible pour réduire les prix afin de conserver la part du marché et la production. Ces fabricants sont dépendants de la vente à l'étranger, mais leur performance est limitée par les difficultés rencontrées dans les marchés étrangers. Les exportations sont principalement destinées aux États-Unis, où elles sont concurrencées par les fabricants américains qui ont accès à des matières premières moins chères et à des coûts de production plus bas.

Pour de plus amples renseignements sur ce dossier, s'adresser à :

Tel.: (613) 954-3043

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Ottawa (Ontario)
235, rue Queen
Objectif : Carton pour boîte
Industrie, Sciences et Techniques naturelles
Transformation des richesses naturelles
Canada

De 1987 à 1993, les producteurs américains dévoient augmenter leur capacité de production de 1,3 million de tonnes en raison de la modernisation du matériel et de l'acquisition de nouvelles machines. Il est peu probable que cette augmentation de la capacité de production soit complètement absorbée au début par le marché américain, situation qui se traduit par des pertes dans la base de consommation canadienne et les Etats-Unis, les producteurs canadiens ayant moins d'entreprises concurrentielles si l'on intègre le marché canadien face à leurs concurrents américains. La compétitivité jouera un rôle essentiel pour la survie des producteurs canadiens, qu'ils soient ou non intégrés en aval jusqu'à la fabrication des bouteilles planétaires. Environ 35 p. 100 de la demande intérieure proviennent du « marché libre », c'est-à-dire des fabricants de bouteilles indépendants et non intégrés. Ce secteur du marché sera particulièrement sensible aux importations américaines qui se ferment en fabriquant des bouteilles indépendantes et non intégrées.

Au Canada et aux Etats-Unis, la croissance réelle de la demande de carton pour boîte devrait être à long terme presque nulle, c'est-à-dire s'établir en moyenne à 1 p. 100 par an. Il ne faut pas oublier que la demande canadienne de carton pour boîte dépend, en grande partie, de l'industrie canadienne des bottes pliantes, arrivée à maturité et qui perd une part de ses marchés habituels au profit d'autres matériaux d'emballage.

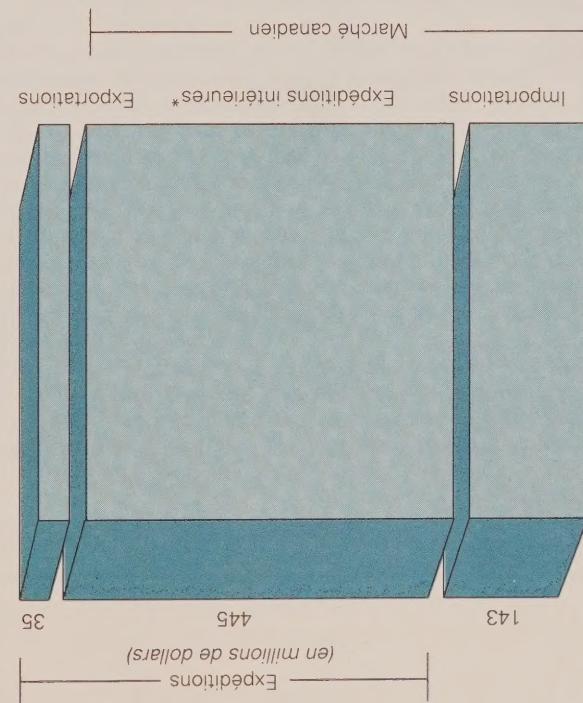
L'augmentation modeste mais continue, de probablement les prix du carton pour boîte à la baisse et ce, au détriment, pour les usines, de leurs marges bénéficiaires, de leurs fonds de roulement et de leur

3. Evolution de l'environnement

CARTON POUR BOÎTE

Rendement

Environ 80 p. 100 de la production de carton
sous boîte proviennent d'usines appartenant
à des intérêts canadiens. Quelque 60 p. 100 de la
capacité de production totale sont intégrés en aval
versus 65 p. 100 de toute l'intégration de
leur environnement fabrique des bouteilles. Un groupe compre-
ce secteur.



En comburants et de valeur relativement peu élevée, ces produits ne sont habituellement pas vendus sur les marchés d'outre-mer, que ce soit par des fabricants canadiens ou par eux-mêmes. La mesure partielle de ces produits est rendue aux fabricants canadiens des bottes pilantes et des bottes rígides, généralement installées dans les grands centres urbains. Dans l'ensemble, la production canadienne de carton pour bouteilles gagne des parts de marché de 5 p. 100 de la production mondiale et à environ 10 p. 100 de la production correspald à une demande de 125 000 tonnes. Cette industrie complète 16 usines spécialisées entièrement ou partiellement dans la production de carton pour bouteille variant de 70 000 à 125 000 tonnes; 9 usines importantes ayant chacune une production annuelle variant de 25 000 à 50 000 tonnes de bouteilles de fablie de 25 000 à 50 000 tonnes. La envergure, soit de 5 000 à 15 000 tonnes. La capacité de production est ainsi répartie : Ontario, 51 p. 100; Québec, 33 p. 100; Colombie-Britannique, 11 p. 100; provinces de l'Atlantique, 5 p. 100. En 1986, ces usines emploient quelque 2 600 personnes, la répartition des emplois suivant celle de la capacité de production.

* Estimations d'ISTC.

1986 - Impoundments, expenditures at expenditures

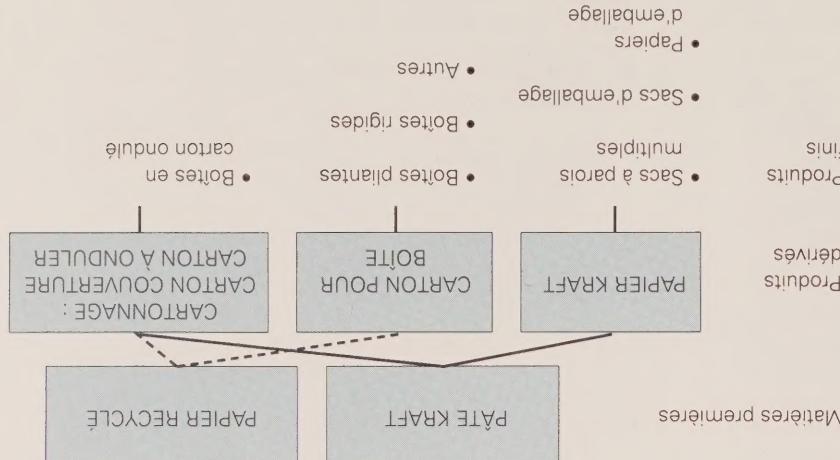
• 56

Structures et renouvellement

En 1986, les expéditions canadiennes de carton pour boîte étaient évaluées à 778 000 tonnes. De ce total, 8 p. 100, ou 64 000 tonnes, ont été exportées — la presque totale destinée aux États-Unis; pour leur part, les importations représentaient 214 000 tonnes, soit 23 p. 100 du marché intérieur.

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• Autres



MATÉRIAUX D'EMBALLAGE À BASE DE PAPIER

Le schéma suivant indique la relation du carton pour boîte par rapport aux autres matériaux d'emballage.

Le reste de la production est constituée de carton pour boîte à base de fibres secondaires est le principal produit fabriqué par cette entreprise au Canada. Un peu plus de 90 p. 100 de tous les cartons pour boîte servent à recréer des matériaux pour la fabrication d'un autre produit. Le carton pour boîte à base de fibres secondaires est le principal produit fabriqué par cette entreprise au Canada. Les bois, de fibres secondaires ou recyclables ou d'un mélange des deux, sont utilisés pour la fabrication d'une autre fois, puis est réutilisé pour servir de matière première pour la fabrication d'un autre fois, ou désigné toute matière première.

Par « fibres secondaires », on désigne toutes les fibres issues d'objets en plastique, de papier, de carton, de verre, de métal, de cuir, de bois, de fibres secondaires ou recyclables ou d'un mélange des deux.

La catégorie des cartons pour boîte comprend le carton compact, le carton double et le carton couché, le carton pour boîte fait de pâte de bois, de fibres secondaires ou recyclables ou d'un mélange des deux.

Les expédiées sont leur forme définitive.

En général, le terme carton pour boîte est utilisé pour désigner le produit à base de carton servant à la fabrication des cartons pour boîtes rigides.

Les cartons servent à la fabrication des cartons pour boîtes rigides, soit utilisaient, tandis que les cartons pour boîtes de céréales, sont expédiées à plat à l'utilisent, tandis que les cartons pour boîtes à chaussures, sont utilisés.

Les cartons servent à la fabrication des cartons pour boîtes rigides.

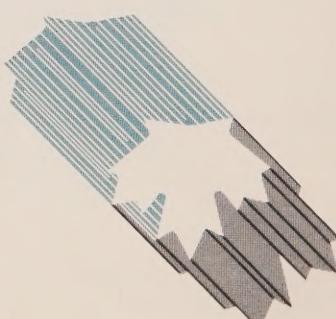
En général, le terme carton pour boîte est utilisé pour désigner le produit à

1. Structure et rendement

CARTON POUR BOÎTE

DE L'INDUSTRIE

P R O F I L

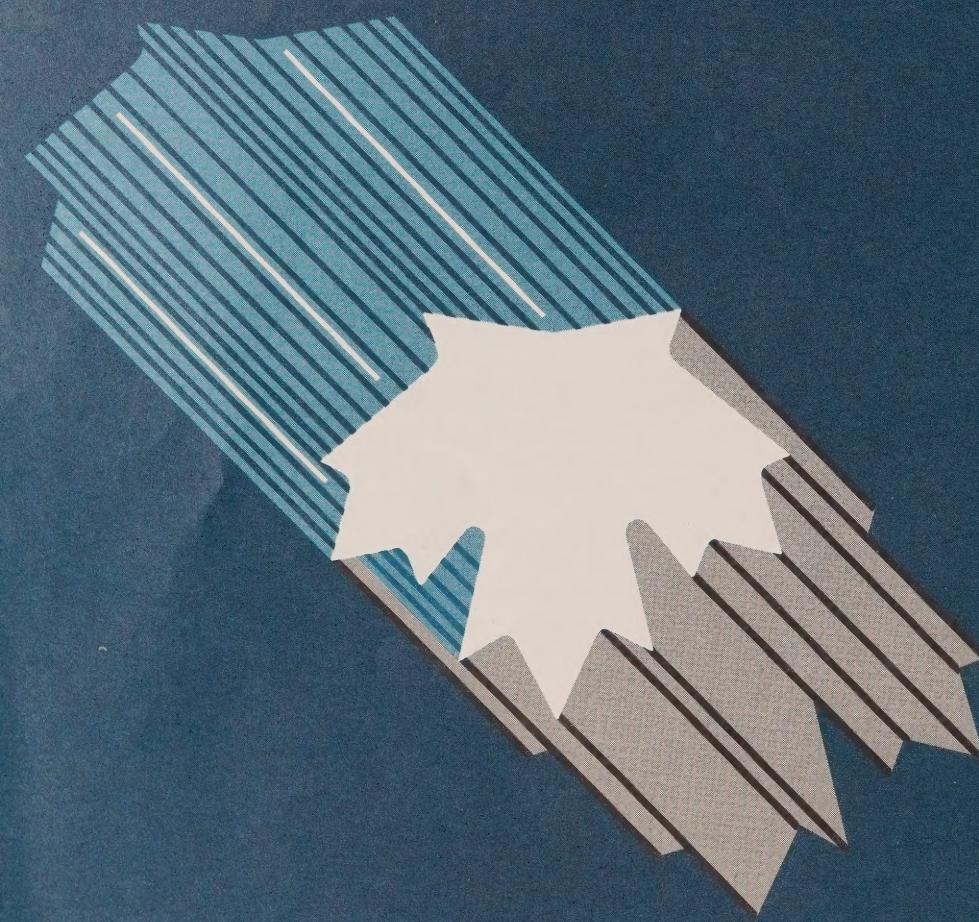


Canada

Carton pour boîte

Industry, Science and

Technologie Canada



DE L'INDUSTRIE

P R O F I L